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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	
Masaaki ITO	Group Art Unit: 2672
Application No.: 09/660,187	Examiner: WANG, Jin Cheng
Filed: September 12, 2000	
For: GAME DEVICE, GAME PROCESSING METHOD AND INFORMATION RECORDING MEDIUM	Confirmation No.: 6735

Attention: Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

APPEAL BRIEF UNDER BOARD RULE § 41.37

In support of the Notice of Appeal filed December 27, 2004, and further to Board Rule 41.37, Appellant presents this brief and encloses herewith a check for the fee of $500.00 required under 37 C.F.R. § 1.17(c). This Appeal Brief is being filed concurrently with a Petition for an Extension of Time of two months and the fee of $450.00 (for a total fee of $950.00), extending the period for response through April 27, 2005.

This Appeal responds to the Final Office Action mailed June 25, 2004, which finally rejected claims 1 and 6-12.

If any additional fees are required or if the enclosed payment is insufficient, Appellant requests that the required fees be charged to Deposit Account No. 06-0916.

Real Party In Interest

Kabushiki Kaisha Sega Enterprises is the real party in interest.

Related Appeals and Interferences

There are currently no other appeals or interferences, of which appellant, appellant's legal representative, or assignee are aware, that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status Of Claims

In the Final Office Action mailed June 25, 2004, the Examiner rejected claims 1 and 6-12 under 35 U.S.C. § 103(a) as unpatentable over Yamamoto et al. (U.S. Patent No. 5,755,620) in view of Inoue et al. (U.S. Patent No. 6,217,445) and Oka et al. (U.S. Patent No. 6,141,025). The final rejection of claims 1 and 6-12 is being appealed and a list of the claims on appeal is found in the attached Claims Appendix.

Furthermore, each claim of this patent application is separately patentable, and upon issuance of a patent will be entitled to a separate presumption of validity under 35 U.S.C. § 282.

Status Of Amendments

All claim amendments have been entered.

Summary Of Claimed Subject Matter

Independent claim 1 recites a game device that reads from a storage means, prior to image processing, background data required in games for displaying a moving object within a virtual three-dimensional space together with a background. *See* at least page 8, line 30 to page 9, line 4. The game device includes a pre-reading means for pre-reading the background data from the storage means by establishing an area for pre-reading. *See* at least page 12, line 12-23. The area for pre-reading sets a predetermined angle-of-visibility based on a direction of the moving object, sets a limit-line of a visual field at a predetermined distance towards a front of the visual field, and sets a pre-reading start line at a predetermined distance beyond a front of the limit-line of the visual field that moves in the direction of the moving object when viewed from the moving object. *See* at least page 12, line 12-23. The storage means stores the background data by dividing the background data into a plurality of areas in advance. *See* at least page 8, line 30 to page 9, line 4.

In addition, the pre-reading means includes a judging means for judging which of the areas the pre-reading start line is crossing to determine a specific area from among the plurality of areas and a reading means for reading the background data of the area judged as being crossed with the pre-reading start line by the judging means. *See* at least page 13, lines 10-22. The plurality of areas are respectively stored in the storage means by dividing the content of background data per type. The game device also includes a work memory including a plurality of memory blocks each set at a same memory capacity.

The reading means includes means for storing the background data of the crossed area in an integral number "n" of the memory blocks in the work memory in accordance with the amount of the background data to be stored, means for judging whether one or more of the memory blocks of the work memory are a vacant space or not, and means for successively storing the background data of the crossed area in the integral number "n" of the memory blocks when the integral number of the memory blocks are judged as vacant space and of sufficient capacity to store the background data. *See* at least page 13, line 24 to page 14, line 14. The game device also includes counting means for detecting whether the moving object exists within the areas corresponding to memory blocks storing background data, or an area that exists within the visual field, in the work memory, and counting the moving object or visual field area periodically. *See* at least page 14, lines 16-28. The reading means also includes means for determining the memory block to store the background data based on a count value determined for each of the memory blocks by said counting means when it is judged that there is no vacant space in the work memory. *See* at least page 14, lines 16-28.

The subject matter of claim 1 is described in the specification at least at page 12, line 12 through page 15, line 5.

Independent claim 12 recites a data processing method for a game device. The method includes reading background data required for a game that displays a moving object within virtual three-dimensional space together with a background in working memory from memorizing means prior to image processing. The background data is

pre-read from a recording medium by establishing an area for pre-reading. The area for pre-reading sets a predetermined angle-of-visibility based on a direction of the moving object, sets a limit-line of a visual field at a predetermined distance towards a front of the visual field, and sets a pre-reading start line at a predetermined distance beyond a front of the limit-line of the visual field that moves in the direction of the moving object when viewed from the moving object.

The recording medium stores the background data by dividing the background data into a plurality of areas in advance. The plurality of areas are respectively stored in the recording medium by dividing the content of background data per type and approximately the same size. The areas the pre-reading start line is crossing is judged to determine a specific area from among the plurality of areas. The background data of the area judged as being crossed with the pre-reading start line is read. Background data of the crossed area is stored in an integral number "n" of memory blocks in the working memory in accordance with an amount of the background data to be stored. The working memory includes a plurality of memory blocks each set at a same memory capacity

Whether one or more memory blocks of the working memory are a vacant space or not is judged, and the background data of the crossed area is successively stored in the integral number "n" of the memory blocks judged as vacant space and of sufficient capacity to store the background data. It is detected whether the moving object exists within any of the plurality of areas corresponding to memory blocks storing background data, or an area that exists within the visual field, in the working memory, and the moving object or area is periodically counted. The memory block to store the read

background data is determined based on a count value determined for each of the memory blocks by the counting when it is judged that there is no vacant space in the working memory.

The subject matter of claim 11 is described in the specification at least at page 12, line 12 through page 15, line 5.

Issues To Be Reviewed on Appeal

The sole issue on appeal is whether claims 1 and 6-12 are patentable under 35 U.S.C. § 103(a) over Yamamoto et al. (U.S. Patent No. 5,755,620) in view of Inoue et al. (U.S. Patent No. 6,217,445) and Oka et al. (U.S. Patent No. 6,141,025).

Argument

I. The Board Should Reverse the Rejection of Claims 1 and 6-12 Under § 103(a) Because the Applied References Do Not Establish a Prima Facie Case of Obviousness

Appellant respectfully traverses the Examiner's rejection of claims 1 and 6-12 under 35 U.S.C. § 103(a) as unpatentable over Yamamoto in view of Inoue and Oka and requests that the Board reverse the Examiner's rejection for the following reasons.

To establish a proper *prima facie* case of obviousness under 35 U.S.C. § 103(a), the Examiner must demonstrate each of three requirements. First, the reference or references, taken alone or combined, must teach or suggest each and every element recited in the claims. *See* M.P.E.P. § 2143.03 (8th ed. 2001). Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. *See* M.P.E.P. § 2143.01 (8th ed. 2001). Third, a reasonable expectation of success must exist. *See* M.P.E.P. § 2143.02 (8th ed. 2001). Moreover, each of these requirements must be found in the prior art, not in applicant's disclosure. *See* M.P.E.P. § 2143 (8th ed. 2001). The applied references do not establish a *prima facie* case of obvious for at least the reason that the applied references do not teach or suggest all of the elements of the pending claims.

Claim 1 recites a game device comprising, among other things, a "pre-reading means for . . . setting a pre-reading start line at a predetermined distance beyond a front of the limit-line of the visual field that moves in the direction of the moving object when viewed from the moving object" and a "judging means for judging which of said areas said pre-reading start line is crossing to determine a specific area from among the

plurality of areas, and reading the background data of the area judged as being crossed with said pre-reading start line." Yamamoto, Inoue, and Oka, taken alone or in combination, do not disclose or suggest at least these claim elements.

In the Advisory Action mailed December 16, 2004, the Examiner contends that Yamamoto at columns 5-6 and 13-16 discloses the claimed "pre-reading means for . . . setting a pre-reading start line at a predetermined distance beyond a front of the limit-line of the visual field that moves in the direction of the moving object when viewed from the moving object" and a "judging means for judging which of said areas said pre-reading start line is crossing to determine a specific area from among the plurality of areas, and reading the background data of the area judged as being crossed with said pre-reading start line," as recited in claim 1. Appellant disagrees.

With respect to Yamamoto, Appellant notes that columns 5-6 of the reference are silent as to the above claimed features. In Yamamoto, CPU 101 performs a process including calculation of behavior of cards such as a determination of contact between a landform and a card, estimation of behavior of suspensions attached to four wheels of a card, and determination of collisions between cars, for example. *See* col. 5, lines 22-26. Motion of a card is simulated in a virtual space depending on an operating signal of a player given from input unit 11. *See* col. 5, lines 37-39. A landform data ROM 109 stores relatively rough polygon data for determining the contact of a card with the landform. *See* col. 6, lines 8-11. CPU 101 also simulates car motion on the basis of read-in operating data. *See* col. 6, lines 48-49. These general teachings of Yamamoto, however, fail to disclose or suggest Appellant's claimed "pre-reading start line," as recited in claim 1.

Columns 13-16 of Yamamoto also fail to disclose the claimed "pre-reading start line," as recited in claim 1. In particular, Yamamoto further discloses converting three-dimensional contour data into a two-dimensional coordinate system. *See* col. 13, lines 1-5. For a plurality of areas ARn formed by division along a road on an X-Z plane, the Yamamoto system determines if a player's card belongs to one of the areas ARn. *See* col. 13, lines 10-13. When the determination result is "no," the area is increased by ARn+1. *See* col. 13, lines 14-15. On the other hand, when the determination result is "yes," a maximum number of polygons are read from a memory. *See* col. 13, lines 15-20. As taught by the Yamamoto system, when a player's car is positioned, an upper limit for displaying polygons is set. *See* col. 15, lines 56-58. When the player's car moves to another point, the upper limit may be changed. *See* col. 15, lines 63-65.

Accordingly, Yamamoto discloses estimating the behavior of a car to simulate the car's motion in a virtual space. *See* col. 5, lines 22-37. Polygons for a running road and a background divided into areas along the running road are controlled. *See* col. 13, lines 6-10. To do so, its processor determines whether a maximum number of polygons is reached in an area (ARn). If the maximum number of polygons is not reached in an area, the processor reads more polygons from multiple areas (such as ARn+1, ARn+2, etc.), until it reaches the maximum number of polygons. *See* col. 13, lines 6-22. In other words, polygons are read out of memory until reaching the maximum number of displayable polygons. As a result, the maximum number of polygons provides an upper limit of the number of polygons that the system will display. *See* also col. 13, lines 23-37.

These teachings, however, do not disclose or suggest at least a "pre-reading means for . . . setting a pre-reading start line at a predetermined distance beyond a front of the limit-line of the visual field that moves in the direction of the moving object when viewed from the moving object" and "judging means for judging which of said areas said pre-reading start line is crossing to determine a specific area from among the plurality of areas, and reading the background data of the area judged as being crossed with said pre-reading start line." (emphasis added). Thus, Yamamoto is silent as to Appellant's claimed "pre-reading start line."

Moreover, Yamamoto in fact *cannot* be construed as teaching Appellant's claimed "pre-reading start line" because its system uses a fixed course, and accordingly, reads background polygons along the fixed course until the upper limit is reached. In contrast, the claimed invention, as recited in claim 1, includes a "pre-reading start line ... that moves in the direction of the moving object when viewed from the moving object" and a "judging means for judging which of said areas said pre-reading start line is crossing to determine a specific area from among the plurality of areas," thereby allowing the player to navigate a course that is not fixed. Accordingly, Yamamoto does not disclose all of the elements of claim 1 for at least the above reasons.

The other references applied by the Examiner, Inoue and Oka, do not overcome the above-noted deficiencies of Yamamoto. Inoue discloses counting the number of vehicles present in a specified area, such as within a certain distance from a player's vehicle, or by using converted two-dimensional coordinate data, and adjusting the number of vehicles that appear in the specified area. To do so, the Inoue system

calculates the total number of automobiles and determines whether to introduce a new automobile into an oncoming lane. *See* col. 12, lines 1-7. Inoue, however, does not disclose or suggest at least a "pre-reading means for . . . setting a pre-reading start line at a predetermined distance beyond a front of the limit-line of the visual field that moves in the direction of the moving object when viewed from the moving object" and "judging means for judging which of said areas said pre-reading start line is crossing to determine a specific area from among the plurality of areas, and reading the background data of the area judged as being crossed with said pre-reading start line," as recited in claim 1 (emphasis added). Instead, in Inoue, the system counts the number of displayed vehicles, and not a specific area.

The Examiner has not asserted that Inoue teaches the elements cited above as missing from Yamamoto, stating that "the Examiner has only relied on Inoue to teach the claimed limitation ... 'counting means' rather than other claim limitations." Final Office Action, page 9. Inoue therefore does not make up for the deficiencies of Yamamoto.

Oka also does not overcome the deficiencies of Yamamoto and Inoue. Oka discloses storing data in a first-in-first-out (FIFO) memory that is provided between a frame buffer and a graphic engine separated from a cache memory. Content is pre-read from the FIFO memory and data is read from the same page in the frame buffer (DRAM) so that access between the cache memory and the DRAM becomes more efficient and content can be drawn with greater speed. *See* Abstract. However, Oka does not disclose or suggest at least a "pre-reading means for . . . setting a pre-reading start line at a predetermined distance beyond a front of the limit-line of the visual field

that moves in the direction of the moving object when viewed from the moving object" and "judging means for judging which of said areas said pre-reading start line is crossing to determine a specific area from among the plurality of areas, and reading the background data of the area judged as being crossed with said pre-reading start line," as recited in claim 1 (emphasis added).

The Examiner has not asserted that Oka teaches the elements cited above as missing from Yamamoto, stating that "the Examiner has only relied on Oka to teach the claimed limitation that 'means for judging whether one or more of said memory blocks of said work memory are vacant space or not.'" Final Office Action, page 10. Oka therefore does not make up for the deficiencies of Yamamoto and Inoue.

Yamamoto, Inoue, and Oka, taken alone or in combination, do not disclose or suggest all elements of claim 1. Accordingly, the Examiner, relying on the applied references, has not established a *prima facie* case of obviousness with respect to claim 1. Thus, Appellant submits that claim 1 is allowable over the applied references. Claims 6-10 and 12 depend from allowable claim 1 and are allowable at least due to their dependencies. Independent claim 11, while of a different scope, includes recitations similar to those of allowable claim 1 and is thus allowable for at least the same reasons as set forth above with respect to claim 1.

Conclusion

For at least the reasons given above, pending claims 1 and 6-12 are allowable. Appellant therefore requests the Board to reverse the Examiner's rejection.

To the extent any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this Appeal Brief, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: April 26, 2005

By: _____ Reg. No. 53,232
for Richard V. Burgujian
Reg. No. 31,744

Claims Appendix to Appeal Brief Under Rule 41.37(c)(1)(viii)

1. A game device that reads from a storage means, prior to image processing, background data required in games for displaying a moving object within a virtual three-dimensional space together with a background, comprising:

pre-reading means for pre-reading said background data from said storage means by establishing an area for pre-reading which includes: setting a predetermined angle-of-visibility based on a direction of the moving object, setting a limit-line of a visual field at a predetermined distance towards a front of the visual field, and setting a pre-reading start line at a predetermined distance beyond a front of the limit-line of the visual field that moves in the direction of the moving object when viewed from the moving object,

wherein said storage means stores said background data by dividing said background data into a plurality of areas in advance;

said pre-reading means comprising judging means for judging which of said areas said pre-reading start line is crossing to determine a specific area from among the plurality of areas, and reading means for reading the background data of the area judged as being crossed with said pre-reading start line by the judging means,

wherein said plurality of areas are respectively stored in said storage means by dividing the content of background data per type;

said game device further comprising a work memory including a plurality of memory blocks each set at a same memory capacity,

wherein said reading means includes means for storing the background data of the crossed area in an integral number "n" of said memory blocks in said work memory in accordance with the amount of the background data to be stored, and

wherein said reading means includes means for judging whether one or more of said memory blocks of said work memory are a vacant space or not, and means for successively storing the background data of said crossed area in said integral number "n" of said memory blocks when said integral number of said memory blocks are judged as vacant space and of sufficient capacity to store the background data;

said game device further comprising counting means for detecting whether said moving object exists within said areas corresponding to memory blocks storing background data, or an area that exists within the visual field, in said work memory, and counting said moving object or visual field area periodically,

wherein said reading means includes means for determining the memory block to store said background data based on a count value determined for each of said memory blocks by said counting means when it is judged that there is no vacant space in said work memory.

2 - 5. (Canceled)

6. A game device according to claim 1, wherein said reading means includes determining means for determining a plurality of consecutive memory blocks when background data to be stored requires a plurality of memory blocks.

7. A game device according to claim 1, wherein said determining means is for determining a plurality of consecutive memory blocks representing a highest or lowest value by comparing said count values of said plurality of consecutive memory blocks.

8. A game device according to claim 1, wherein said determining means is for determining a plurality of consecutive memory blocks representing a highest or lowest value by computing average values for said plurality of consecutive memory blocks.

9. A game device according to claim 1, wherein said moving object is a vehicle that moves within said virtual three-dimensional space.

10. A game device according to claim 1, wherein said background data is landform data prepared to enable a vehicle to travel in arbitrary directions on land represented by the background data.

11. A data processing method for a game device comprising:

reading background data required for a game that displays a moving object within virtual three-dimensional space together with a background in working memory from memorizing means prior to image processing, wherein said background data is pre-read from a recording medium by establishing an area for pre-reading which includes: setting a predetermined angle-of-visibility based on a direction of the moving

object, setting a limit-line of a visual field at a predetermined distance towards a front of the visual field, and setting a pre-reading start line at a predetermined distance beyond a front of the limit-line of the visual field that moves in the direction of the moving object when viewed from the moving object;

said recording medium storing said background data by dividing said background data into a plurality of areas in advance, said plurality of areas being respectively stored in said recording medium by dividing the content of background data per type and approximately the same size;

judging which of said areas said pre-reading start line is crossing to determine a specific area from among the plurality of areas, and reading the background data of the area judged as being crossed with said pre-reading start line;

storing background data of the crossed area in an integral number "n" of memory blocks in said working memory in accordance with an amount of the background data to be stored, said working memory including a plurality of memory blocks each set at a same memory capacity;

judging whether one or more memory blocks of said working memory are a vacant space or not, and successively storing the background data of said crossed area in said integral number "n" of said memory blocks judged as vacant space and of sufficient capacity to store the background data;

detecting whether said moving object exists within any of said plurality of areas corresponding to memory blocks storing background data, or an area that exists within the visual field, in said working memory, and counting said moving object or area periodically; and

determining the memory block to store said read background data based on a count value determined for each of said memory blocks by said counting when it is judged that there is no vacant space in said working memory.

12. An information recording medium having recorded therein said background data and programs for executing the respective means according to claim 1.

Evidence Appendix to Appeal Brief Under Rule 41.37(c)(1)(ix)

None.

Related Proceedings Appendix to Appeal Brief Under Rule 41.37(c)(1)(x)

None.